

and nearly one and a half million people are employed in the industry, while three years ago the capital invested in this province was estimated at over 4,000,000/. The land under cultivation in Bengal was, in 1899, estimated at 452,700 acres. There seems at last to be some movement among the dry bones ; the Indigo Planters' Association have employed Mr. Rawson, who is an expert upon the chemistry of dyeing, to endeavour to improve the process of manufacturing indigo, and appeals are made to the Government for help. The Government is doing its part, and has ordered that all blue cloth supplied to the Army and Navy Clothing Departments shall be dyed with *natural* indigo. At the present time the price of natural and synthetic indigo is almost the same. What will the Government do if the price of synthetic indigo becomes much less than that of natural indigo ? Sir William Hudson, in August of this year, applied to the Government for a loan for a scheme of sugar cultivation, suggesting that indigo and sugar-cane should be grown in rotation. The Government, although not able to accede to his request, has sanctioned a committee to inquire into the possibilities of establishing the sugar industry in Behar.

When attention is drawn to the perilous position of the Indian indigo industry, letters are written to the papers by those connected with the production of indigo, making light of the danger, and referring to the "*real* indigo dye and German imitation." But, as Mr. Rawson, who at least is not likely to overrate the artificial indigo, said in his admirable lecture, delivered before the Society of Arts at the end of March, "all chemists who have studied the question agree that synthetic indigo is *identically* the same compound as the indigotin of natural indigo" ; and again, "Providing the synthetic dye can be produced in sufficient quantity, the whole question of artificial *versus* natural indigo will resolve itself into one of cost. The Badische Company have spent nearly a million pounds in improving the manufacture of artificial indigo ; at Höchst, the "Farben Fabrik" is also manufacturing artificial indigo, though at present they are only supplying the German market. In a letter to the *Times* on April 24, Prof. Armstrong asks, "Have we spent 5000/- in the endeavour to set our Indian indigo house in order ?" For every British chemist employed it is safe to say the Germans are employing fifty ; for every pound spent they are spending thousands. Is it not time to appoint a committee or commission of experts to see whether it may not be possible to increase the yield and quality of the indigo produced, and at the same time to produce it more economically ?

F. MOLWO PERKIN.

NOTES.

PROF. POINCARÉ has been elected a foreign member of the Munich Academy of Sciences.

PROF. KLEIN has been elected a correspondant of the Paris Academy of Sciences, in the section of mineralogy. Prof. Haller has been elected a member of the Academy in succession to the late M. Grimaux.

THE Rammelsberg Memorial Lecture will be delivered at the Chemical Society by Prof. H. A. Miers, F.R.S., on Thursday, December 13.

WE notice in *Science* the announcement that Prof. Schiaparelli retired on November 1 from the directorship of the observatory at Milan, where he has been at work for the past forty years. His successor is Prof. Celoria, heretofore assistant astronomer at the observatory.

At the annual meeting of the Royal Geological Society of Cornwall, Dr. Le Neve Foster was presented with the William Bolitho gold medal in recognition of the distinction which he

has attained as a mineralogist and also of the great services rendered by him to the society as curator during the period when he held the appointment of inspector of mines for Cornwall and Devon.

IT is reported that M. Daniel Osiris, a Greek millionaire residing in Paris, has instituted a prize on the lines laid down by Mr. Nobel, though his offer is for Frenchmen only, except in a Paris Exposition year, when it becomes universal. He has set aside a sum to be awarded every three years in perpetuity to the discoverer, inventor or producer of the most noteworthy idea or object for the benefit of humanity. The prize is to be never less than 100,000 francs, and may be double that sum.

A RUMOUR, which we profoundly regret, has reached us to the effect that, owing to increasing financial difficulties, the Government of Jamaica, W.I., is obliged to retrench in the work of the museum, and that the curator, Dr. J. E. Duerden, A.R.C.S. (London), will be shortly returning to England. During his appointment in the Colony, Dr. Duerden has carried out investigations on the local aboriginal Indian remains and in marine zoology. Among the important results obtained may be mentioned the discovery of the free-swimming female medusoids of *Millepora* ; the discovery that the addition of new mesenteries and septa in the coral *Porites* takes place in a bilateral manner at the dorsal or ventral aspect of the polyp, recalling the method probably followed in the ancient Rugose corals ; the establishment of the fact that the order of septal formation in most *Madreporaria* follows closely the law ascertained long ago by Prof. Lacaze-Duthiers for the cycles of tentacles in *Actinia*. Can nothing be done to save the Colony from the opprobrium which must follow the forsaking of pure science ?

THE value of anti-plague serum is a very vexed question. Yersin in 1896, in China, claimed a mortality of only 7·6 per cent. in twenty-six cases treated with his serum, and the same observer in 1897, in India, using Roux's serum, stated that the mortality was only 49 per cent., as compared with 80 per cent. among the cases not treated with serum. The Indian medical officers and the German Commission, however, reported unfavourably upon his results, and the serum treatment of plague has not been adopted in India. Clemow, in India in 1899, employed both Yersin's and Lustig's sera, but was unable to observe any good results from the use of either. On the other hand, in the outbreak of plague in Oporto last year, Calmette and Salimbeni claim to have obtained excellent results with the use of serum prepared at the Pasteur Institute by the most recent method—viz. by treating horses with increasing doses, first of dead and afterwards of living cultures, of plague bacilli, administered by intravenous injection during a period of five or six months. The mortality of the cases treated with serum was 15·3 per cent., as against 63·7 per cent. for the untreated cases. Calmette holds that for successful treatment the anti-plague serum must be administered in large doses, intravenously to commence with, and afterwards by repeated subcutaneous injection, early treatment being essential. The experimental results are distinctly in favour of the value of anti-plague serum both as a preventive and as a curative agent.

MR. R. HEDGER-WALLACE, formerly of the Department of Agriculture, Victoria, is giving a course of lectures on the "First Principles of Colonisation and Plantation," at the Gardens of the Royal Botanic Society of London. The remaining lectures will be delivered on November 30 and December 7 at three o'clock.

IN consequence of the annual dinner of the Institution of Electrical Engineers being fixed for Monday, December 3, the second lecture of Prof. Fleming's Cantor course at the Society of Arts, on "Electric Oscillations and Electric Waves," announced

for that date will be postponed until the following day, Tuesday, December 4, to suit the convenience of members and others who might be prevented by the dinner from attending it.

THE Council of the Institution of Engineers and Shipbuilders in Scotland is arranging an International Engineering Congress, under the presidency of Lord Kelvin, in connection with the Glasgow International Exhibition of 1901. The leading engineering and kindred societies have already accorded their hearty support to the congress. An influential London Committee has been formed, and the congress gives every promise of being a success.

SIR WILLIAM MACCORMAC, president of the Royal College of Surgeons of England, has received the Royal licence and authority that he may accept and wear the Cross of Commander of the Legion of Honour, conferred upon him by the President of the French Republic, in recognition of services which he rendered to the French wounded during the war of 1870-71, as well as to the International Congress of Medicine held during the recent Paris Exhibition.

AT the end of this year Dr. H. R. Mill will retire from the post of librarian to the Royal Geographical Society, and will be succeeded by Mr. E. Heawood. The scientific appointment which he has accepted will enable him to devote more attention to the investigation of meteorology and oceanography in their relation to the configuration of the ground than has been possible during his nine years librarianship.

AT the Imperial Institute on Monday an illustrated public lecture was delivered by Mr. Clement L. Wragge, Government Meteorologist of Queensland, on "The Work of the Queensland Weather Bureau, in its Relation to the Natural Resources and Commerce of Australasia." The work of the Queensland Weather Bureau is divided into two main parts, (1) the investigation of local climates, climatology, and (2) forecasting the weather. In speaking of the daily forecasting service, Mr. Wragge said that by an Inter-colonial system of exchange of data his Bureau is daily placed in possession of barometric and other meteorological readings from every part of Australasia, and the forecasts prepared therefrom are published in the principal daily Australasian papers. He advocated the American system of hoisting flags of different designs and colours at the telegraph offices of every town. The comparison of simultaneous observations of the upper regions of the air, made at mountain observatories, with those made at the nearest point on the sea level, are of great value, as meteorologists are thus enabled to obtain practically vertical sections of the atmosphere.

WE have received the twenty-second report of the Deutsche Seewarte, Hamburg, referring to the work of that important institution for the year 1899. The meteorological services of Germany are divided into two parts. The Central Office at Berlin, whose report we noticed in our issue of last week, deals with the climatological observations over the whole Empire, in co-operation with the various States of Germany; while the Hamburg Office deals with everything appertaining to maritime meteorology, including storm warnings, and for this purpose has under its control a number of independent stations, especially along the sea coasts. In carrying out these objects, Dr. Neumayer has the assistance of Drs. Köppen, van Bebber and other well-known men of science. In glancing through the report, one is at once struck by the persistent and successful endeavours to collect observations made at sea; the complete logs and abstract books received during the year from the ships of the Navy and Mercantile Marine numbered no less than 818. For the supply of log-books the consuls in various parts of the world, including this country, act as agents of the Seewarte. The results are published in valuable tables and charts, which

are frequently referred to in these columns. For the purpose of issuing weather forecasts and storm warnings the institution is in daily telegraphic communication with all the meteorological services of Europe; upwards of 3000 telegraphic storm warnings were issued to various stations during the year 1899, and the daily and ten-daily weather reports furnish most trustworthy and useful information, the latter relating to weather conditions over an area extending from North America across the North Atlantic, and far into the continent of Asia.

SOME interesting particulars respecting the growth of the acetylene gas industry are given in a recent report by the British Consul at Stuttgart. Calcium carbide has been known to chemists as an interesting chemical compound for several years, but until recently it was practically unknown to the public. Now its production is one of the most important chemical industries. Germany was foremost to recognise the new illuminant, and it has secured the principal place in its production. At present there are at least 200,000 jets of acetylene gas in use in the country, and it is, the Consul says, impossible to predict the result of the competition between it and its rival illuminants. Probably petroleum will suffer most; coal gas will be superseded to a great extent, especially in lighting small towns, but electricity will not be appreciably affected. No other branch of industry can point to such a large and steady increase in the number of patents, showing that it has encouraged great fertility of invention. Besides producing it at home, German capital has gone abroad to produce carbide, especially to Norway and Switzerland. One of the greatest successes of the industry has been its application to the lighting of railway carriages on German Government lines. During the current year the consumption of carbide in the country is estimated at 17,000 tons, equal in illuminating power to about seven millions of gallons of petroleum. Thirty-two small towns, with populations up to 5000, are lighted by acetylene, and many more contemplate its adoption; and the progress of the system of lighting, says the Consul, is "another striking instance of the manner in which the magnificent system of technical education has prepared the way for the introduction of new scientific achievements." The economic importance of the industry appears from the fact that Germany annually pays about five millions sterling to the United States for petroleum, while acetylene is a purely German industry, carbide being manufactured in the country, which possesses in various parts all the necessary raw materials.

WE have received a copy of an illustrated memoir by Signor Rina Monti, published in the *Memorie* of the Royal Institute of Lombardy (vol. xix. pt. i.), detailing the results of experiments on the power of regeneration displayed by marine planarians. It was found that if one of these creatures was cut into two or more portions by transverse section, as many complete individuals were produced.

TO the November number of the *Zoologist* Mr. A. H. Meiklejohn contributes a paper on the origin and meaning of the names of British birds, a subject which, according to the author, has hitherto received but little attention. "In most birds' names," he writes, "special stress is invariably laid on some well-known or easily distinguished peculiarity either in cry, flight or appearance." Names from the cry, such as pipit, crake, cuckoo, hoopoe and kittiwake, are especially numerous. To the origin of some, like gull, auk and garganey, there is no clue.

SINCE the publication, some years ago, by Prof. D'Arcy Thompson, of a paper on the affinities of the Eocene American cetacean, commonly known as *Zeuglodon*, very little advance in our knowledge of the genus has taken place. It is, therefore, satisfactory to find Mr. F. A. Lucas, in the *Proceedings* of the U.S. Museum (vol. xxiii. pp. 327-331), giving an account of the pelvis and

thigh-bone. Both these bones are relatively small, and in life were probably completely buried in the flesh. Although the relationship may be remote, the author considers that *Zeuglodon* was certainly related to the seals; adding that it probably represents a side branch of the ceto-phocid stock which left no descendants. It is also mentioned that the abundance of its remains in certain districts of the United States has been much exaggerated.

PROF. W. A. HERDMAN has drawn up a scheme of investigations for submission to the Committee of the Lancashire and Western Sea Fisheries. These investigations, it is suggested, should be carried out systematically by the Committee's new steamer, commencing with the new year. The questions as to whether a particular fishery is on the wane or the increase, or whether "nurseries" are already overstocked with young fish or stand in need of replenishing by artificially hatched fish, can only, according to Prof. Herdman, be solved by means of accurate information connected with the abundance, movements and life-histories of the species of fish concerned; and such information can only be acquired by a practical scientific investigation of our seas. The tables drawn up for recording the observations taken during each cruise seem admirably adapted for their purpose. It is proposed that a certain amount of the steamer's time should be devoted to the taking of regular periodic observations at fixed points according to the plan of these tables.

WE have received from the publishers, Messrs. Gurney and Jackson, a copy of the second edition of Mr. H. Goss's valuable pamphlet on the "Geological Antiquity of Insects," the first edition of which was noticed in these columns. In the preface the author expresses regret that he has had neither time nor energy to incorporate the new matter which has been published since the appearance of the first edition, so that the present issue is mainly a reprint of the latter.

MR. A. S. PACKARD describes some tracks of Crustaceans found in rocks of the Chemung stage (Upper Devonian), and in upper Carboniferous of Pennsylvania and elsewhere (*Proc. Amer. Acad.*, July 1900). These tracks he attributes to Limuloids akin to the Carboniferous genus *Prestwichia*. Mr. Packard also describes a new fossil crab (*Cancer proavitus*), from the Miocene of Gay Head, Martha's Vineyard. He remarks that the extinct species appears to be the stem or ancestral form from which have descended the two species now living in the waters of Vineyard Sound.

THE geological section of the Leicester Literary and Philosophical Society is doing excellent work under the chairmanship of Mr. H. Alfred Roechling. Excursions have this year been made to Atherstone, Polesworth, Ashby-de-la-Zouch and other places, concerning which concise reports have been printed, together with sections and geological maps (on a scale of two inches to a mile). These maps and sections are the work of Mr. C. Fox Strangways, who has acted as geological leader on many of the excursions.

IN the *Astrophysical Journal* (vol. xii. pp. 167-175), Prof. H. Crew describes some very interesting experiments he has recently made on the differences in the spectra of various metals when the arc producing the light was surrounded by ordinary air or hydrogen. The investigation was undertaken in the hope that the new condition might have some selective effect on the spectrum lines, and thereby facilitate their grouping into series. The arc was produced in a brass hood made in two halves; into one of these the two electrodes were fitted by insulated bearings, provision being made for one of the electrodes being rotated from outside. The opposing edges of the two hemi-

spheres were then screwed together, and a gas-tight joint obtained. Opposite the space between the poles, the hood was provided with an opening carrying a brass tube some 12 inches long, having at its outer end a quartz lens which served to project an image of the enclosed arc on to the slit of a concave Rowland spectrograph of 10-feet radius. The hydrogen was supplied from three large electrolytic cells, and, after passing through a drying tube, was allowed to continually pass through the brass hood, the surplus being ignited at a stopcock. The first indication of the effect of the hydrogen was to materially diminish its intensity, so much so that in some cases the exposure had to be from five to one hundred times that necessary in air only. In addition, there is a most conspicuous change of relative intensity among the lines of any one substance. Tables are given of the lines affected in the cases of magnesium, zinc and iron. In magnesium, the characteristic line at $\lambda 4481$ has an intensity in hydrogen ten times as great as in air, this change being similar to that obtained in passing from the arc to the induction spark. In the case of iron many lines are greatly enhanced in intensity, but these are not the same lines which are enhanced in substituting the spark for the arc condition; but the author states that all lines in the arc spectrum which are affected by the hydrogen atmosphere, whether enhanced or diminished in intensity, belong to the spark spectrum also. On the other hand, the lines which belong to Kayser and Runge's series are unaffected by the change from air to hydrogen.

MESSRS. PERKEN, SON AND CO., LTD., have just issued a new catalogue of photographic apparatus, magic lanterns and accessories.

FOLLOWING the example of Cornell University, the New Mexico Normal University has commenced the publication of instructive bulletins to encourage interest in nature study. The subjects of the first two bulletins are house flies and pigments.

IN his letter on the optics of acuteness of sight (p. 83), Dr. A. S. Percival pointed out that as the angle subtended by Jupiter's edge and his first satellite at the observer's eye is greater than one and a half minutes of arc, there is no reason why the four satellites should not be seen by the naked eye. The angle is $1'33''$, and not $1'33''$ as it was printed.

WE have received from the firm of Gebrüder Borntraeger, Berlin (London: Williams and Norgate), the second fasciculus of the second volume of "Symbolae Antillanae seu fundamenta Florae Indiae occidentalis," edited by Herr J. Urban. The new part deals with the Cyperaceæ, Acanthaceæ, new Lauraceæ and Bromeliaceæ, and new and little known Leguminosæ.

PROF. CORFIELD'S Harveyian lectures on "Disease and Defective House Sanitation," of which translations into French and Hungarian have already been published by the Royal Society of Public Health of Belgium and the Hungarian Society of Public Health respectively, have now been translated into Italian by Dr. Soffiantini, of Milan, and are being published, with illustrations, in *Il Monitore Tecnico*.

MESSRS. J. AND A. CHURCHILL have published a fourth edition of Dr. E. H. Starling's "Elements of Human Physiology." As an introduction to the larger text-books the volume is admirable, and it has proved a serviceable guide to many students since the original volume was published in 1892. A review of the book appeared in NATURE eight years ago (vol. xlvi. p. 146), and we are glad to know that the merits which have made it successful were then fully recognised.

THE second fasciculus of the first volume of the "Conspectus florae graecæ," by Dr. E. de Halász, has been published by Mr. W. Englemann, of Leipzig (London: Williams and Norgate). Nearly a century has elapsed since the appearance of

Sibthorp and Smith's "Prodromus florae graecae," and other works on the subject have been issued; but the conspectus now in course of publication will be the first attempt to give anything like a complete account of the flora of Greece, inclusive of Epirus, Crete and neighbouring islands. The work will be entirely in Latin, and will be completed in from eight to ten parts, each of about 160 pages. It is estimated that about five years will elapse before the last part has appeared.

A FIFTH edition, rewritten and enlarged, of the "Handbook of Practical Botany," translated by Prof. W. Hillhouse from Prof. Strasburger's "Praktikum," has been published by Messrs. Swan Sonnenschein and Co., Ltd. The translation is based upon the third German edition of Prof. Strasburger's well-known work, issued in 1897. A number of new figures have been added, and the notes introduced by Prof. Hillhouse in earlier editions have now been incorporated in the text. The bibliographical notes formerly appended to the chapters have been omitted. For nearly fourteen years Prof. Hillhouse's translation of Prof. Strasburger's text-book has been in use in botanical laboratories, and has shown many students the way to become acquainted with the broad facts of scientific structural botany and the methods of microscopical work. In its revised form the book will be welcomed by all who are interested in the practical study of botany.

THE publication of a bibliography, guide and index to bacteriological literature has been commenced in *The Scientific Roll*, conducted by Mr. Alexander Ramsay. The first title included in the part of the general bibliography just issued is "Arcana naturae detecta," by Leeuwenhoek (1680), and the list extends to 1875 and includes one hundred and one papers published in that year. The works are arranged alphabetically, according to authors. Though the list is not exhaustive it will provide people interested in bacteria with a ready means of finding what has been published on bacteriological subjects, and of tracing the growth of the science. Mr. Ramsay invites authors to send him copies of their papers so that he may make the bibliography as complete as possible. The publisher of the list is Mr. R. L. Sharland, 38, Churchfield-road, Acton, London, W.

A WORK of interest to students of ethnology, containing the results of the journey to Algeria made by Messrs. D. Randall-MacIver and A. Wilkins, is about to be published by Messrs. Macmillan and Co., under the title of "Libyan Notes." The object of the expedition was to establish if possible any trace of a connection between the Berber tribes and Egypt—a trace finally discovered in the pottery of the Kabyles but incidentally the writers undertook and recorded a general investigation of the indigenous white race of Northern Africa known to Rome as the Numidians, Goetulians or Mauri—who figure as a white race on Egyptian monuments as far back probably as 1300 B.C. Thus in addition to the special chapters on the Kabyle pottery and the evidences of a Libyo-Egyptian connection, the book will contain remarks on the Berber history, their language, their interesting political and social organisation; detailed descriptions both of the Aurès and Kabylia, their inhabitants and the local industries; observations and statistics on the physical type of the Berbers based on measurements; and finally some account of the rude stone monuments of Algeria.

THE additions to the Zoological Society's Gardens during the past week include a Bonnet Monkey (*Macacus sinicus*) from India, presented by Mrs. Henry Lazarus; a Rhesus Monkey (*Macacus rhesus*) from India, presented by Mr. H. A. Loop; an Egyptian Jerboa (*Dipus aegyptius*) from North Africa, presented by Mr. K. Riccardo; four Black-backed Jackals (*Canis mesomelas*) from South Africa, presented by Mr. J. E. Matcham; an African Civet Cat (*Viverra civetta*) from West Africa, pre-

sented by Mr. R. H. Brady; a Puffin (*Fratercula arctica*), European, presented by Mr. E. T. Norris; a Common Roe (*Capreolus capreola*, albino), European; a One-wattled Cassowary (*Casuarius unappendiculatus*) from New Guinea, a Yellow-rumped Parrakeet (*Platycercus flaveolus*) from Queensland, an Ocellated Monitor (*Varanus ocellatus*) from East Africa, five Blue Lizards (*Gerrhosaurus coeruleus*) from Western North America, three Undulated Lizards (*Sceloporus undulatus*) from South-east United States, deposited; an Axis Deer (*Cervus axis*), born in the Gardens.

OUR ASTRONOMICAL COLUMN.

ASTRONOMICAL OCCURRENCES IN DECEMBER.

Dec. 4. 18h. 41m. to 18h. 45m. Moon occults 13 Tauri (mag. 5.4).
 5. 6h. 11m. to 6h. 46m. Moon occults ω^2 Tauri (mag. 4.6).
 5. 16h. 5m. to 17h. 0m. Moon occults DM +20°, 785 (mag. 5.8).
 7. 15h. Mercury at greatest elongation, 20° 50' W.
 8. 13h. 32m. to 14h. 37m. Moon occults DM +17° 1596 (mag. 5.6).
 10. 8h. 56m. to 9h. 52m. Moon occults κ Cancri (mag. 5.0).
 10-12. Epoch of Geminid meteoric shower (Radiant 108° +33°).
 11. 12h. 36m. Minimum of Algol (β Persei).
 12. 13h. Mars in conjunction with moon. Mars 8° 26' N.
 13. 21h. Jupiter in conjunction with the sun.
 14. 9h. 25m. Minimum of Algol (β Persei).
 15. Venus. Illuminated portion of disc = 0° 836. Mars. " " " " = 0° 907.
 16. Saturn. Outer minor axis of outer ring = 15° 40'.
 17. 6h. 14m. Minimum of Algol (β Persei).
 18. 19h. Venus in conjunction with the moon. Venus 2° 19' N.
 19. 16h. Neptune in opposition to the sun.
 20. 0h. Mercury in conjunction with moon. Mercury 0° 2' N.
 26. Eros makes nearest approach to the earth.
 26. 7h. 42m. to 8h. 33m. Moon occults 5t Aquarii (mag. 5.8).
 29. 1h. Saturn in conjunction with sun.

NEW VARIABLE STARS.—*Cygnus*.—Herr T. Köhl, writing from an observatory at Odder, Denmark, to the *Astronomische Nachrichten* (Bd. 154, No. 3673), draws attention to the variability of the star B.D. + 46° 2970, whose co-ordinates are

$$\begin{aligned} \text{R.A.} &= 20h. 28m. 33\text{s.} \\ \text{Decl.} &= +46^{\circ} 4' 2'' \end{aligned} \} (1855).$$

A note by Herr E. Hartwig suggests that the period of this variable is more than a year.

Aquila.—Dr. T. D. Anderson, in the same journal, announces the variability of the star B.D. + 9° 4205, having the position

$$\begin{aligned} \text{R.A.} &= 19h. 33m. 48\text{s.} \\ \text{Decl.} &= +9^{\circ} 35' 4'' \end{aligned} \} (1855).$$

Using four neighbouring stars for comparison, the following values were obtained:—

$$\begin{aligned} \text{1900 Sept.} & 18 = 9^{\circ} 2' \\ & 24 = 9^{\circ} 2' \\ \text{Oct.} & 1 = 9^{\circ} 4' \\ & 25 = 10^{\circ} 0' \\ \text{Nov.} & 9 = 10^{\circ} 6' \end{aligned}$$

Pegasus.—Dr. Anderson also finds the star A.G. Leipzig I. 8381 to be variable. Its position is

$$\begin{aligned} \text{R.A.} &= 21h. 6m. 15\text{s.} \\ \text{Decl.} &= +12^{\circ} 12' 26'' \end{aligned} \} (1855).$$

The following estimations of its magnitude have been made:—

$$\begin{aligned} \text{1900 Sept.} & 26 = 9^{\circ} 1' \\ \text{Oct.} & 27 = 9^{\circ} 5' \\ \text{Nov.} & 10 = 10^{\circ} 1' \end{aligned}$$